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*** START OF THE PROJECT GUTENBERG EBOOK BOOKNOLOGY: THE EBOOK (1971-2010) ***

Produced by Al Haines

BOOKNOLOGY: THE EBOOK (1971-2010)

MARIE LEBERT

Updated version, November 2010

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From 1971 to 2010 > Booknology, an ebook timeline

The electronic book (ebook) was born in 1971, as eText #1 from Project Gutenberg, a visionary project created by Michael Hart to freely disseminate electronic versions of literary works. 40 years later, ebooks are part of our lives. We read them on our computers, PDAs, mobile phones, smartphones, and ebook readers. [Please forgive my mistakes in English, if any. My mother tongue is French.]

July 1971 > Project Gutenberg, a visionary project

The first ebook was available in July 1971, as eText #1 of Project Gutenberg, a visionary project launched by Michael Hart to create electronic versions of literary works and disseminate them worldwide. In the 16th century, Gutenberg allowed anyone to have print books for a small cost. In the 21st century, Project Gutenberg would allow anyone to have a digital library at no cost. Project Gutenberg got its first boost with the invention of the web in 1990 and its second boost with the creation of Distributed Proofreaders in 2000, to help digitizing books from public domain. In 2010, Project Gutenberg offered more than 33,000 ebooks being downloaded by the tens of thousands every day, with websites in the United States, in Australia, in Europe, and in Canada.

1974 > The internet took off

When Project Gutenberg started in July 1971, the internet was just a glimmer, with a pre-internet set up in 1969. The internet took off in 1974 with the creation of the TCP/IP protocol by Vinton Cerf and Bob Kahn. It expanded as a network linking U.S. governmental agencies, universities and research centers. The internet got its first boost with the invention of the web by Tim Berners-Lee in 1990, and its second boost with the release of the first public browser Mosaic in 1993. The Internet Society (ISOC) was founded in 1992 by Vinton Cerf to promote the development of the internet as a medium that was quickly spreading worldwide to become part of our lives.

1977 > ASCII extensions for a few European languages

Used since the beginning of computing, ASCII (American Standard Code for Information Interchange) is a 7-bit coded character set for information interchange in English. It was published in 1968 by ANSI (American National Standards Institute), with an update in 1977 and 1986. The 7-bit plain ASCII, also called Plain Vanilla ASCII, is a set of 128 characters with 95 printable unaccented characters (A-Z, a-z, numbers, punctuation and basic symbols), the ones that are available on the English / American keyboard. With the use of other European languages, extensions of ASCII (also called ISO-8859 or ISO-Latin) were created as sets of 256 characters to add accented characters as found in French, Spanish and German, for example ISO 8859-1 (ISO-Latin-1) for French.

1977 > UNIMARC, a common bibliographic format

The IFLA (International Federation of Library Associations) published the first edition of "UNIMARC: Universal MARC Format" in 1977, followed by a second edition in 1980 and a UNIMARC Handbook in 1983. UNIMARC (Universal Machine Readable Cataloging) was set up as a solution to the 20 existing national MARC formats, with a lack of compatibility and extensive editing when bibliographic records were exchanged. With UNIMARC, catalogers would be able to process records created in any MARC format. Records in one MARC format would first be converted into UNIMARC, and then be converted into another MARC format. UNIMARC would also be promoted as a format on its own.

1984 > Copyleft, to adapt copyright to the internet

The term "copyleft" was invented in 1984 by Richard Stallman, a computer scientist at MIT (Massachusetts Institute of Technology), who launched the GNU Project. As explained on its website: "Copyleft is a general method for making a program or other work free, and requiring all modified and extended versions of the program to be free as well. (...) Copyleft says that anyone who redistributes the software, with or without changes, must pass along the freedom to further copy and change it. Copyleft guarantees that every user has freedom. (...) Copyleft is a way of using of the copyright on the program. It doesn't mean abandoning the copyright; in fact, doing so would make copyleft impossible. The word 'left' in 'copyleft' is not a reference to the verb 'to leave' - only to the direction which is the inverse of 'right'. (...) The GNU Free Documentation License (FDL) is a form of copyleft intended for use on a manual, textbook or other document to assure everyone the effective freedom to copy and redistribute it, with or without modifications, either commercially or non commercially."

1984 > The Psion Organiser was the first electronic agenda

Launched in 1984 by the British company Psion, the Psion Organiser was the first electronic agenda. Later on, Psion launched the Psion Series 3 and Series 5, and the company expanded internationally. In 2000, the various models (Series 7, Series 5mx, Revo, Revo Plus) competed with the Palm Pilot and the Pocket PC. With fewer sales, the company decided to diversify its activities. Following the acquisition of Teklogix, Psion Teklogix was created in September 2000 to develop wireless mobile solutions for businesses. Psion Software was founded in 2001 to develop software for the new generation of mobile devices using the Symbian OS platform, for example the smartphone Nokia 9210, launched the same year.

1986 > Franklin launched dictionaries on handheld devices

Franklin, a company based in New Jersey (United States), launched in 1986 the first dictionary available on a handheld device. Fifteen years later, Franklin distributed 200 reference books on handheld devices: monolingual and bilingual dictionaries, encyclopedias, Bibles, textbooks, medical books, and books for entertainment.

1990 > The World Wide Web took off

The World Wide Web was invented in 1989-90 by Tim Berners-Lee at CERN (European Center for Nuclear Research, that later became the European Organization for Nuclear Research), Geneva, Switzerland. In 1989, Tim Berners-Lee networked documents using hypertext. In 1990, he developed

the first HTTP (HyperText Transfer Protocol) server and the first web browser. In 1991, the web was operational and radically changed the way people were using the internet. Hypertext links allowed us to move from one textual or visual document to another with a simple click of the mouse. Information became interactive. Later on, this interactivity was further enhanced with hypermedia links that could link texts and images with graphics, video or music. The World Wide Web Consortium (W3C) was founded in October 1994 to develop protocols for the web.

January 1991 > Unicode, an encoding system for all languages

First published in January 1991, Unicode "provides a unique number for every character, no matter what the platform, no matter what the program, no matter what the language" (excerpt from the website). This double-byte platform-independent encoding provides a basis for the processing, storage and interchange of text data in any language. Unicode is maintained by the Unicode Consortium, with its variants UTF- 8 (UTF: Unicode Transformation Format), UTF-16 and UTF-32, and is a component of the W3C (World Wide Web Consortium) specifications. In 2008, 50% of all the documents available on the internet were encoded in Unicode, with the other 50% still encoded in ASCII, a 7-byte encoding system dating back from 1968 for English and Latin, with 8- byte "extensions" added then for a few European languages.

January 1993 > The Online Books Page, a catalog of free ebooks

Founded in 1993 by John Mark Ockerbloom when he was a student at Carnegie Mellon University (in Pittsburgh, Pennsylvania, United States), the Online Books Page is "a website that facilitates access to books that are freely readable over the internet. It also aims to encourage the development of such online books, for the benefit and edification of all." John Mark Ockerbloom first maintained this page on the website of the School of Computer Science of Carnegie Mellon University. In 1999, he moved it to its present location at the University of Pennsylvania Library, where he is a digital library planner and researcher. The Online Books Page offered links to 12,000 books in 1999, 20,000 books in 2003 (including 4,000 books published by women), 25,000 books in 2006, 30,000 books in 2008, and 35,000 books in 2010. The books "have been authored, placed online, and hosted by a wide variety of individuals and groups throughout the world", with a number of books from Project Gutenberg. The FAQ gives copyright information for most countries in the world, with links to further reading.

June 1993 > PDF and Acrobat Reader, launched by Adobe

Adobe launched PDF (Portable Document Format) in June 1993, with Acrobat Reader (free, to read PDF documents) and Adobe Acrobat (for a fee, to create PDF documents). As the "veteran" format, PDF was perfected over the years as a global standard for distribution and viewing of information. It "lets you capture and view robust information from any application, on any computer system and share it with anyone around the world. Individuals, businesses, and government agencies everywhere trust and rely on Adobe PDF to communicate their ideas and vision" (excerpt from the website). Adobe Acrobat gave the tools to create and view PDF files, for a number of languages and platforms (Windows, Mac, Linux). Acrobat Reader was available for PDAs, beginning with the Palm Pilot (May 2001) and the Pocket PC (December 2001). Between 1993 and 2003, over 500 million copies of Acrobat Reader were downloaded worldwide. In 2003, Acrobat Reader was available in many languages and for many platforms (Windows, Mac, Linux, Palm OS, Pocket PC, Symbian OS, etc.), and approximately 10% of the documents on the internet were available in PDF.

July 1993 > The E-zine-list, a list of electronic zines

As explained in 1993 by John Labovitz, founder of the E-zine-list: "'Zine' is short for either 'fanzine' or 'magazine', depending on your point of view. Zines are generally produced by one person or a small group of people, done often for fun or personal reasons, and tend to be irreverent, bizarre, and/or esoteric. (...) An 'e-zine' is a zine that is distributed partially or solely on electronic networks like the internet." 3,045 e-zines were listed in November 1998, with e-zines spreading like fire. "Even the term 'e-zine' has been co-opted by the commercial world, and has come to mean nearly any type of publication distributed electronically. Yet there is still the original, independent fringe, who continue to publish from their heart, or push the boundaries of what we call a 'zine'."

November 1993 > Mosaic was the first public browser

Developed by NSCA (National Center for Supercomputing Applications) at the University of Illinois (United States) and distributed free of charge since November 1993, Mosaic was the first browser for the general public, and contributed greatly to the development of the web. In early 1994, part of the Mosaic team migrated to the Netscape Communications Corporation to develop a new browser called Netscape Navigator. In 1995, Microsoft launched its own browser Internet Explorer. Other browsers were launched then, like Opera and Safari, Apple's browser.

February 1994 > The first library website

The first library website was the website of the Helsinki City Library in Finland, which went live in February 1994. From then on, more and more traditional libraries had a website as a new "virtual" window for their patrons and beyond. Patrons could check opening hours, browse the online catalog, and surf on a broad selection of websites on various topics. Libraries developed digital libraries alongside their standard collections, for a large audience to be able to access their specialized, old, local, and regional collections, including images and sound. Librarians could finally fulfill two goals that used to be in contradiction: preservation on shelves, and communication on the internet. Library treasures went online, like Beowulf, the earliest known narrative poem in English, dated circa 1000, or the original Bible from Gutenberg, dated 1455, on the website of the British Library.

May 1994 > The Human-Languages Page, an online catalog of linguistic resources

Created by Tyler Chambers in May 1994, the Human-Languages Page (H-LP) was a comprehensive catalog of 1,800 language-related internet resources in 100 languages in September 1998, with six subject listings (languages and literature, schools and institutions, linguistics resources, products and services, organizations, jobs and internships) and two category listings (dictionaries, language lessons). In spring 2001, the Human-Languages Page merged with the Languages Catalog, a section of the WWW Virtual Library, to become iLoveLanguages, with an index of 2,000 linguistic resources in 100 languages in September 2003, and 2,400 linguistic resources in September 2007.

1994 > Athena, a Swiss multilingual digital library

Athena was founded in 1994 by Pierre Perroud, a Swiss teacher, and hosted on the website of the University of Geneva, Switzerland. Athena was a multilingual digital library specializing in philosophy, science, literature, history, and economics, either by digitizing documents or by providing links to existing etexts. The Helvetia section provided documents about Switzerland. Geneva being the main city in French-speaking Switzerland, Athena also provided a section for French-language texts. A specific page offered an extensive selection of other digital libraries worldwide, with relevant links.

1994 > NAP: free digital versions as a marketing tool to sell print books

NAP (National Academy Press, later renamed National Academies Press) was the first publisher in 1994 to post the full text of some of its books on its website, for free, with the authors' consent, and to use the web as a marketing tool to sell print versions. NAP was created by the National Academy of Sciences to publish its own reports and the ones of the National Academy of Engineering, the Institute of Medicine, and the National Research Council. In 1994, NAP was publishing 200 new books a year in science, engineering, and health. Oddly enough, there was no drop in sales for books also available for free on the web. On the contrary, sales increased. In 1998, the new NAP Reading Room offered 1,000 free digital versions in various formats ("image", HTML, PDF).

1995 > The MIT Press followed NAP

In 1995, the MIT Press was publishing 200 new books per year and 40 journals, in science and technology, architecture, social theory, economics, cognitive science, and computational science. The MIT Press decided to put a number of books online for free, as "a long-term commitment to the efficient and creative use of new technologies". Sales of print books with a free online version increased. This initiative was praised by other publishers. But they were reluctant to launch similar experiences because of the cost of publishing online thousands of pages, problems linked to copyright, and the fear of free versions "competing" with print sales.

1995 > The Internet Dictionary Project: collaborative dictionaries on the internet

After launching the Human-Languages Page (H-LP) in May 1994, Tyler Chambers launched the Internet Dictionary Project (IDP) in 1995. The IDP was a collaborative project to create free collaborative online dictionaries from English to other languages (French, German, Italian, Latin, Portuguese, and Spanish). As explained on the project's website in September 1998: "The Internet Dictionary Project's goal is to create royalty-free translating dictionaries through the help of the internet's citizens. This site allows individuals from all over the world to visit and assist in the translation of English words into other languages. The resulting lists of English words and their translated counterparts are then made available through this site to anyone, with no restrictions on their use." Twelve years later, in January 2007, Tyler ran out of time to manage this project, and removed the ability to update the dictionaries, but people could still search the available dictionaries or download the archived files.

1995 > NetGlos, a collaborative online glossary of the internet

Launched in 1995 by the WorldWide Language Institute (WWLI), an institute providing language instruction via the internet, NetGlos — which stands for "Multilingual Glossary of Internet Terminology" - was compiled as a voluntary, collaborative project by a number of translators and other language professionals worldwide. In September 1998, NetGlos was available in the following languages: Chinese, Croatian, English, Dutch/Flemish, French, German, Greek, Hebrew, Italian, Maori, Norwegian, Portuguese, and Spanish.

1995 > The print press went online in the U.S.

The first electronic versions of print daily newspapers were available in the early 1990s through commercial services like America Online and CompuServe. In 1995, newspapers and magazines began offering websites with a partial or full version of their latest issue - available freely or through free or paid subscription - as well as online archives. For example, the site of The New York Times could be accessed free of charge, with articles of the print newspaper, breaking news updated every ten minutes, and original reporting only available online. The site of The Washington Post gave the daily news online, with a full database of articles including images, sound and video. The computer press went logically online as well, including the monthly Wired, created in 1992 in California to cover cyberculture as "the magazine of the future at the avant-garde of the 21st century".

1995 > The print press went online worldwide

In Europe, for example, the daily Times (United Kingdom) and the Sunday Times launched in 1995 a common website called Times Online, with a way to create a personalized edition. The weekly The Economist (United Kingdom) went online as well, followed by the weekly Le Monde Diplomatique (France), the daily Le Monde (France), the daily Libération (France), the daily El País (Spain), the weekly Focus (Germany) and the weekly Der Spiegel (Germany).

July 1995 > Amazon.com, a pioneer of cyber-commerce

The online bookstore Amazon.com was launched by Jeff Bezos in July 1995, in Seattle (United States), after a market study which led him to conclude that books were the best products to sell on the internet. When Amazon.com started, it had 10 employees and a catalog of 3 million books. Unlike traditional bookstores, Amazon's windows were its webpages, with all transactions made through the internet. Books were stored in huge storage facilities before being put into boxes and sent by mail. In November 2000, Amazon had 7,500 employees, a catalog of 28 million items, 23 million clients worldwide and four subsidiaries in United Kingdom (launched in August 1998), Germany (August 1998), France (August 2000), and Japan (November 2000). A fifth subsidiary opened in Canada in June 2002. A sixth subsidiary, named Joyo, opened in China in September 2004.

December 1995 > The Kotoba Home Page, to read several languages on the computer screen

Yoshi Mikami, a computer scientist at Asia Info Network in Fujisawa, Japan, created in December 1995 the website "The Languages of the World by Computers and the Internet", also known as the Logos Home Page or Kotoba Home Page, "to summarize there the brief history, linguistic and phonetic features, writing system and computer processing aspects for each of the six major languages of the world, in English and Japanese". Yoshi was also the co-author (with Kenji Sekine and Nobutoshi Kohara) of "The Multilingual Web Guide" (Japanese edition), a print book published by O'Reilly Japan in August 1997, and translated in 1998 into English, French, and German.

March 1996 > The Palm Pilot was the first PDA

Palm, a company based in California, launched the Palm Pilot in March 1996 as the first PDA, and sold 23 million devices between 1996 and 2002. Its operating system was the Palm OS and its reading software the Palm Reader. In March 2001, Palm users could also use the Mobipocket Reader, and Palm bought Peanutpress.com, a company specializing in digital books for PDA, with its Peanut Reader and 2,000 titles that were transferred to Palm's digital bookstore, called Palm Digital Media. While some book professionals were concerned about the small screen, Palm users found the screen size wasn't a problem to read a book.

April 1996 > The Internet Archive, to archive the web every two months or so

Founded in April 1996 by Brewster Kahle, the Internet Archive is a non-profit organization that has built an "internet library" to offer permanent access to historical collections in digital format for researchers, historians and scholars. An archive of the web is stored every two months or so. In late 1999, the Internet Archive started to include collections of archived webpages on specific topics. It also became an online digital library of text, audio, software, image and video content. In October 2001,

with 30 billion stored webpages, the Internet Archive launched the Wayback Machine, for users to be able to surf the archive of the web by date. In 2004, there were 300 terabytes of data, with a growth of 12 terabytes per month. There were 65 billion webpages (from 50 million websites) in 2006, 85 billion webpages in 2008, and 150 billion webpages in March 2010.

April 1996 > OneLook Dictionaries, a "fast finder" in online dictionaries

Robert Ware launched his website OneLook Dictionaries in April 1996 as a "fast finder" in hundreds of online dictionaries. On September 2, 1998, the fast finder could "browse" 2,058,544 words in 425 dictionaries covering various topics: business, computer/internet, medical, miscellaneous, religion, science, sports, technology, general, and slang. OneLook Dictionaries was provided as a free service by the company Study Technologies, in Englewood, Colorado. OneLook Dictionaries could browse 2.5 million words from 530 dictionaries in 2000, 5 million words from 910 dictionaries in 2003, and 19 million words from 1,060 dictionaries in 2010.

Mai 1996 > DAISY, a standard for digital audiobooks

Founded in May 1996, the DAISY Consortium (DAISY first meant "Digital Audio Information System" before meaning "Digital Accessible Information System") is an international consortium responsible for the transition from analog audiobooks available on tapes or cassettes to digital audiobooks. Its task was to define an international standard, to set up the conditions for the production exchange and use of audiobooks, and to organize the digitization of audiobooks worldwide. The DAISY standard is based on the DTB (Digital Talking Book) format, which allows the indexing of audiobooks with bookmarks for paragraphs, pages, and chapters, to make it easier to navigate through the books.

October 1996 > The @folio project, for a novel reading device

The @folio project is a reading device project conceived in October 1996 by Pierre Schweitzer, an architect-designer living in Strasbourg, France. It is meant to download and read any text and/or illustrations from the web or hard disk, in any format, with no proprietary format and no DRM (Digital Rights Management). The technology of @folio is novel and simple. It is inspired from fax and tab file folders. The flash memory is "printed" like Gutenberg printed his books. The facsimile mode is readable as is for any content, from sheet music to mathematical or chemical formulas, with no conversion necessary, whether it is handwritten text, calligraphy, free hand drawing or non- alphabetical writing. An international patent was filed in April 2001. The French start-up iCodex was created in July 2002 to promote and develop @folio.

1996 > A web version for the Ethnologue, a catalog of all living languages

Published by SIL International (SIL was initially known as the Summer Institute of Linguistics) since 1951, and freely available on the web since 1996, The Ethnologue: Languages of the World is an encyclopedic reference work cataloging all of the world's known living languages. As stated by Barbara Grimes, its editor from 1971 to 2000: "It is a catalog of the languages of the world, with information about where they are spoken, an estimate of the number of speakers, what language family they are in, alternate names, names of dialects, other socio- linguistic and demographic information, dates of published Bibles, a name index, a language family index, and language maps." Thousands of linguists have contributed to the Ethnologue worldwide. A new edition is published approximately every four years. The 16th edition was published in 2009, in print (for sale) and on the web (for free), with information on the 6,909 living languages of our planet.

1996 > Merriam-Webster Online

Merriam-Webster, a main publisher of English-language dictionaries, launched the website "Merriam-Webster Online: The Language Center" in 1996 to give free access to online resources stemming from its print publications: Webster Dictionary, Webster Thesaurus, Webster's Third (a lexical landmark), Guide to International Business Communications, Vocabulary Builder (with interactive vocabulary quizzes), and the Barnhart Dictionary Companion (hot new words). The goal of the website has also been to help track down definitions, spellings, pronunciations, synonyms, vocabulary exercises, and other key facts about words and language.

1996 > A main French-language dictionary online

The "Dictionnaire Universel Francophone en Ligne" (Universal French- Language Online Dictionary) was the web version of the "Dictionnaire Universel Francophone", published by Hachette, a major French publisher, and the AUPELF-UREF (which later became the AUF: Agence Universitaire de la Francophonie - University Agency of Francophony). The dictionary included not only standard French but also the French- language words and expressions used worldwide. French is an official language in 50 countries, for 500 million people worldwide. The AUF is a branch of the OIF (Organisation

Internationale de la Francophonie — International Organization of French-speaking Countries), founded in 1970 as an instrument of multilateral cooperation at the international level. As a side remark, English and French are the only official and/or cultural languages that are widely spread on five continents.

1996 > Digitalization

"Digitalization has made it possible to create, record, manipulate, combine, store, retrieve and transmit information and information-based products in ways which magnetic tape, celluloid and paper did not permit. Digitalization thus allows music, cinema and the written word to be recorded and transformed through similar processes and without distinct material supports. Previously dissimilar industries, such as publishing and sound recording, now both produce CD-ROM rather than simply books and records" (excerpt from the Proceedings of the Symposium on Multimedia Convergence, International Labor Organization, January 1997). In book publishing, digitization speeded up the editorial process, which used to be sequential, by allowing the copy editor, the image editor and the layout staff to work at the same time on the same book. In mainstream media, journalists and editors could now type in their articles online, and these articles went directly from text to layout, without being keyed in anymore by the production staff.

January 1997 > The multimedia convergence

Previously distinct information-based industries, such as printing, publishing, graphic design, media, sound recording and film making, were converging into one industry, with information as a common product. This trend was named "multimedia convergence", with a massive loss of jobs, and a serious enough issue to be tackled by the ILO (International Labor Organization) as early as 1997. The first ILO Symposium on Multimedia Convergence was held in January 1997 at the ILO headquarters in Geneva, Switzerland, with employers, unionists, and government representatives from all over the world. Some participants, mostly employers, demonstrated the information society was generating or would generate jobs. Other participants, mostly unionists, demonstrated there was a rise in unemployment worldwide, that should be addressed right away through investment, innovation, vocational training, computer literacy, retraining, and fair labor rights, including for teleworkers.

April 1997 > E Ink, for the development of an electronic ink

In April 1997, researchers at the MIT Media Lab (MIT: Massachusetts Institute of Technology) created the company E Ink to develop an electronic ink technology. Very briefly, the technology was the following one: caught between two sheets of flexible plastic, millions of micro-capsules, each of them containing black and white particles, are in suspension in a clear fluid. A positive or negative electric field indicates the desired group of particles on the surface, to view, modify or delete data. In July 2002, E Ink showed the prototype of the first screen using this technology. This screen was marketed in 2004. Other screens followed for various reading devices, including the first black and white flexible displays announcing the forthcoming "electronic paper".

May 1997 > Barnes & Noble launched its own online bookstore

Barnes & Noble, a leading bookseller with 481 stores nationwide in the United States, entered the world of e-commerce in 1997. Barnes & Noble first launched its America OnLine (AOL) website in March 1997 - as the exclusive bookseller for 12 million AOL customers -, before launching its own website, barnesandnoble.com, in May 1997. The site was offering reviews from authors and publishers, with a catalog of 630,000 titles available for immediate shipping, and significant discounts: 30% off all in-stock hardcovers, 20% off all in-stock paperbacks, 40% off select titles, and up to 90% off bargain books. Its Affiliate Network spread quickly, with 12,000 affiliate websites in May 1998, including CNN Interactive, Lycos, and ZDNet.

June 1997 > 82.3% English-speaking internet users

The percentage of English-speaking internet users decreased from nearly 100% in 1983 to 82.3% in June 1997. People from all over the world began to have access to the internet, and to post more and more webpages in their own languages. The first major study about language distribution on the web was run by Babel, a joint initiative from Alis Technologies, a company specializing in language translation services, and the Internet Society. The results were published in June 1997 on a webpage named "Web Languages Hit Parade". The main languages were English with 82.3%, German with 4.0%, Japanese with 1.6%, French with 1.5%, Spanish with 1.1%, Swedish with 1.1%, and Italian with 1.0%.

1997 > The digitization of print books

In 1997, a digital book meant scanning it, because most books existed only in print. To be viewed on the screen, a digitized book can be in "image format" or "text format". The "image format" is the

photograph of the book page by page, as the digital facsimile of the print version. The original layout is preserved, and one can leaf through the book on the screen. The text format means scanning the book to get image files, then converting these image files into text files using OCR (Optical Character Recognition) software, and if possible, as a second step, correcting the text on the screen by comparing both versions. A good OCR software is supposed to be 99% reliable, leaving a few errors per page. The text version of the book doesn't retain the original layout of the book or page. It allows a full-text search in the book, a main asset for an electronic book.

1997 > The Library 2000 project

Since the mid-1990s, libraries were studying how to store an enormous amount of data, and make it available on the internet through a reliable search engine. Library 2000 was a project run between 1995 and 1998 by the MIT Laboratory for Computer Science (MIT: Massachusetts Institute of Technology) to explore the implications of large scale online storage, using the digital library of the future as an example. It developed a prototype using the technology and system configurations expected to be economically feasible in 2000. Another project was the Digital Library Initiative, supported by grants from NSF (National Science Foundation), DARPA (Defense Advanced Research Projects Agency), and NASA (National Aeronautics and Space Administration). As mentioned on the Digital Library Initiative's website in 1998: "The Initiative's focus is to dramatically advance the means to collect, store, and organize information in digital forms, and make it available for searching, retrieval, and processing via communication networks - all in user-friendly ways."

1997 > A digital library project for the British Library

The British Library was a pioneer in Europe as early as 1997. As explained on its website by Brian Lang, chief executive of the library: "We do not envisage an exclusively digital library. We are aware that some people feel that digital materials will predominate in libraries of the future. Others anticipate that the impact will be slight. (...) The development of the Digital Library will enable the British Library to embrace the digital information age. Digital technology will be used to preserve and extend the Library's unparalleled collection. Access to the collection will become boundless with users from all over the world, at any time, having simple, fast access to digitized materials using computer networks, particularly the internet."

October 1997 > Gallica, the digital library of the French National Library

The French National Library (BnF: Bibliothèque nationale de France) launched its digital library Gallica in October 1997 as an experimental project to offer digitized texts and images from print collections related to French history, life and culture, beginning with the 19th century. It quickly became one of the largest digital libraries available on the internet. The books ranged from the Middle Ages to the early 20th century, and were digitized as image files, for cost reasons. In December 2006, the Gallica collection included 90,000 books and periodicals, 80,000 images, and a number of sound files. Gallica also began converting image files of books into text files, to allow full-text searching. In March 2010, the revamped site of Gallica (launched in March 2008) reached one million documents, most of which are available for free.

1997 > The first blog

A blog is an online diary kept by a person or a group. A blog usually is in reverse chronological order, and can be updated every minute or once per month. The first blog was launched in 1997. In July 2005, there were 14 million blogs worldwide, with 80,000 new blogs per day. Technorati, the first blog search engine, gave the number of 65 million blogs in December 2006, with 175,000 new blogs per day. Some blogs are devoted to photos (photoblogs), music (audioblogs or podcasts), and videos (vlogs or videoblogs).

1997 > Eurodicautom, a European terminology database in 12 languages

Eurodicautom was launched in 1997 as a free website by the Translation Service of the European Commission. Eurodicautom was a multilingual terminology database of economic, scientific, technical, and legal terms and expressions, with language pairs for the eleven official languages of the European Union (Danish, Dutch, English, Finnish, French, German, Greek, Italian, Portuguese, Spanish, Swedish), and Latin, and with an average of 120,000 hits per day in 2003. In late 2003, Eurodicautom announced its integration into a larger terminology database in partnership with other institutions of the European Union. The new database — called IATE (InterActive Terminology for Europe) - would be available in more than 20 languages, because of the enlargement of the European Union planned in 2004 towards Eastern Europe. IATE was launched in 2007.

1997 > The interface of Yahoo! available in seven languages

In 1997, the interface of Yahoo! was available in seven languages: English, French, German, Japanese, Korean, Norwegian, and Swedish, with websites classified in 63 sections. Yahoo! was launched three years earlier by David Filo and Jerry Lang, two students at Stanford University, California, as an online directory to give access to websites and sort them out by topics. The directory quickly became quite popular because people found it more handy than search engines like AltaVista, where these tasks were fully automated. However, when a search didn't give any result in Yahoo!, it was automatically shunted to AltaVista, and vice versa.

December 1997 > Babel Fish, the first free machine translation software

In December 1997, AltaVista was the first search engine to launch a free machine translation software called Babel Fish — or AltaVista Translation -, which could translate up to three pages from English into French, German, Italian, Portuguese or Spanish, and vice versa. The software was developed by SYSTRAN (acronym of "System Translation"), a company specializing in automated language solutions. Babel Fish was a hit among the 12 million internet users of the time, with more and more non-English-speaking users, and contributed to the plurilinguism of the web. Babel Fish was followed by other tools developed by Alis Technologies, Globalink, Lernout & Hauspie, and Softissimo, with free and/or paid versions available on the web.

December 1997 > The translation tools of Logos for free on the web

In December 1997, Logos — a global translation company based in Modena, Italy - decided to put on the web for free the linguistic tools used by its translators, for the internet community to be able to use them as well. The linguistic tools were the Logos Dictionary, a multilingual dictionary with 7 billion words in fall 1998; the Logos Wordtheque, a multilingual library with 328 billion words extracted from translated novels, technical manuals, and other texts; the Logos Linguistic Resources, a database of 553 glossaries; and the Logos Universal Conjugator, a database for verbs in 17 languages. In 2007, the Logos Library (formerly Wordtheque) included 710 billion words, Linguistic Resources included 1,215 glossaries, and the Universal Conjugator (formerly Conjugation of Verbs) included verbs in 36 languages.

1998 > The online database of the first volume (1751) of the Encyclopédie

In 1998, the database of the first volume of the Encyclopédie (1751) was available online, as an experimental project from ARTFL (American and French Research on the Treasury of the French Language), a common project of the CNRS (Centre National de la Recherche Scientifique - National Scientific Research Center) in France and the University of Chicago in Illinois (United States). This online experiment was a first step towards a full online version of the first edition (1751-1772) of the Encyclopédie by Diderot and d'Alembert, with 72,000 articles written by more than 140 contributors - including Voltaire, Rousseau, Marmontel, d'Holbach, Turgot, and others -, 17 volumes of text (with 20,736,912 words and 18,000 pages) and 11 volumes of plates. Designed to collect and disseminate the entire knowledge of the time, the Encyclopédie was a reflection of the intellectual and social currents of the time, called the Age of Enlightenment, and contributed to disseminate novel ideas that would inspire the French Revolution in 1789.

April 1998 > The dream behind the web, by Tim Berners-Lee, its inventor

Tim Berners-Lee, who invented the web in 1990, wrote in May 1998: "The dream behind the web is of a common information space in which we communicate by sharing information. Its universality is essential: the fact that a hypertext link can point to anything, be it personal, local or global, be it draft or highly polished. There was a second part of the dream, too, dependent on the web being so generally used that it became a realistic mirror (or in fact the primary embodiment) of the ways in which we work and play and socialize. That was that once the state of our interactions was online, we could then use computers to help us analyze it, make sense of what we are doing, where we individually fit in, and how we can better work together" (excerpt from "The World Wide Web: A very short personal history", available on the website of the World Wide Web Consortium).

May 1998 > Editions 00h00, a pioneer in online publishing

Editions 00h00 (pronounced "zéro heure") was created in May 1998 by Jean-Pierre Arbon and Bruno de Sa Moreira, as a pioneer in commercial online publishing, to sell digital books through the internet. In 2000, the catalog included 600 titles, with 85% of sales for digital versions (in PDF format), and the remaining 15% for on-demand print versions. No stock, but a direct link with the reader and between readers. On the website, users/readers could create their personal space to write their comments, participate in forums, subscribe to an online newsletter, and watch online video clips about new literary

works that were published. In September 2000, 00h00 was bought by the media company Gemstar. In June 2003, Gemstar put an end to its eBook experiments, both for its ebook reading devices and for 00h00.

August 1998 > A quote by Michael Hart, founder of Project Gutenberg

Michael Hart, founder of Project Gutenberg in 1971, and the inventor of ebooks (electronic books), has dedicated his whole life to put as many literary works online for free for everyone, for them to be disseminated worldwide. He wrote in August 1998: "We consider etext to be a new medium, with no real relationship to paper, other than presenting the same material, but I don't see how paper can possibly compete once people each find their own comfortable way to etexts, especially in schools." (NEF Interview)

September 1998 > A quote by John Mark Ockerbloom, founder of the Online Books Page

John Mark Ockerbloom created the Online Books Page in 1993, as a catalog of ebooks available for free on the web. He wrote in 1998: "I've gotten very interested in the great potential the net has for making literature available to a wide audience. (...) I am very excited about the potential of the internet as a mass communication medium in the coming years. I'd also like to stay involved, one way or another, in making books available to a wide audience for free via the net, whether I make this explicitly part of my professional career, or whether I just do it as a spare-time volunteer." (NEF Interview)

September 1998 > A quote by Robert Beard, founder of A Web of Online Dictionaries

Robert Beard, founder of A Web of Online Dictionaries in 1995, wrote in September 1998: "The web will be an encyclopedia of the world by the world for the world. There will be no information or knowledge that anyone needs that will not be available. The major hindrance to international and interpersonal understanding, personal and institutional enhancement, will be removed. It would take a wilder imagination than mine to predict the effect of this development on the nature of humankind." (NEF Interview) In January 2000, Robert Beard co- founded yourDictionary, a major portal for dictionaries and other tools in all languages.

October 1998 > A new amendment to the U.S. copyright law

Each copyright legislation has been more restrictive than the previous one. A major blow for digital libraries was the amendment to the 1976 Copyright Act signed on October 27, 1998. As explained in July 1999 by Michael Hart, founder of Project Gutenberg: "Nothing will expire for another 20 years. We used to have to wait 75 years. Now it is 95 years. And it was 28 years (+ a possible 28-year extension, only on request) before that, and 14 years (+ a possible 14-year extension) before that. So, as you can see, this is a serious degrading of the public domain, as a matter of continuing policy." The copyright went from an average of 30 years in 1909 to an average of 95 years in 1998, with an extension of 65 years. Only a book published before 1923 can now be considered for sure as belonging to the public domain.

1999 > The Rocket eBook was the first ebook reader

The Rocket eBook was launched in 1999 by NuvoMedia, in Palo Alto, California, as the first dedicated ebook reader. Founded in 1997, NuvoMedia wanted to become "the electronic book distribution solution, by providing a networking infrastructure for publishers, retailers and end users to publish, distribute, purchase and read electronic content securely and efficiently on the internet." NuvoMedia's investors were Barnes & Noble and Bertelsmann. The connection between the Rocket eBook and the computer (PC or Macintosh) was made through the Rocket eBook Cradle, which provided power through a wall transformer, and connected to the computer with a serial cable.

1999 > The SoftBook Reader was the second ebook reader

SoftBook Press created the SoftBook Reader in 1999, along with the SoftBook Network, an internet-based content delivery service. With the SoftBook Reader, "people could easily, quickly and securely download a wide selection of books and periodicals using its built-in internet connection", with a device that, "unlike a computer, was ergonomically designed for the reading of long documents and books." The investors of Softbook Press were Random House and Simon & Schuster.

1999 > Other pioneer ebook readers

Other pioneer ebook readers were launched in 1999, for example EveryBook and the Millennium

eBook (Librius). EveryBook (EB) was "a living library in a single book". The EveryBook's electronic storage could hold 100 textbooks or 500 novels. The EveryBook used a "hidden" modem to dial into the EveryBook Store, for people to browse, purchase, and receive full text books, magazines, and sheet music. The Millennium eBook was a "small low-cost" ebook reader launched by Librius, a "full-service e-commerce company". Librius's website offered a World Bookstore that "delivered digital copies of thousands of books" via the internet.

1999 > A website for the Ulysses Bookstore, the oldest travel bookstore in the world

Created in 1971 by Catherine Domain in the center of Paris, France, on Ile Saint-Louis in the middle of the river Seine, the Ulysses Bookstore (Librairie Ulysse) is the oldest travel bookstore in the world, with 20,000 books, maps and magazines, out of print and new. Catherine, an avid traveler herself, started a website in early 1999, as a virtual travel in the field of computing, and wrote in November 2000: "My site is still pretty basic and under construction. Like my bookstore, it is a place to meet people before being a place of business. The internet is a pain in the neck, takes a lot of my time and I earn hardly any money, but that doesn't worry me... I am very pessimistic though, because it is killing off specialist bookstores." (NEF Interview)

1999 > WordReference.com: free bilingual online dictionaries

WordReference.com was created in 1999 by Michael Kellogg, who wrote much later on his project's website: "I started this site in 1999 in an effort to provide free online bilingual dictionaries and tools to the world for free on the internet. The site has grown gradually ever since to become one of the most-used online dictionaries, and the top online dictionary for its language pairs of English-Spanish, English-French, English-Italian, Spanish-French, and Spanish-Portuguese. Today, I am happy to continue working on improving the dictionaries, its tools and the language forums. I really do enjoy creating new features to make the site more and more useful."

1999 > Wordfast, a translation memory software

Created in 1999 by Yves Champollion in Paris, France, Wordfast is a translation memory software with terminology processing in real time. Wordfast was compatible with the IBM WebSphere Translation Server and other translation memory software like Trados. During a few years, a basic version of Wordfast was also available for free, with a manual in 16 languages. In 2010, Wordfast is the most widely used translation memory solution on both Windows and Mac platforms, and the second most widely used translation memory software on Windows (the first one being SDL Trados), with over 20,000 customer deployments, including the United Nations, Nomura Securities, the NASA (National Aeronautics and Space Administration), and McGraw-Hill.

September 1999 > OeB (Open eBook), a standard format for ebooks

With so many formats showing up in the late 1990s for new reading devices, the digital publishing industry felt the need to work on a common format for ebooks. In September 1999, it released the first version of the Open eBook (OeB) format, based on XML (eXtensible Markup Language) and defined by the Open eBook Publication Structure (OeBPS). The Open eBook Forum was then created in January 2000 to develop the OeB format and OeBPS specifications. Since 2000, most ebook formats have been derived from - or are compatible with - the OeB format, for example the PRC format from Mobipocket or the LIT format from Microsoft.

December 1999 > Britannica.com, the web version of the Encyclopedia Britannica

Britannica.com was launched in December 1999, as the digital equivalent of the 32 volumes of the 15th edition of the Encyclopaedia Britannica. The website was available for free - as a complement to the print and CD-ROM versions (for sale) -, with a selection of articles from 70 magazines, a guide to the best websites, a selection of books, etc., all searchable through a single search engine. In September 2000, the site was among the top 100 websites in the world. In July 2001, the website, not free anymore, was available for a monthly or annual fee. In 2009, Britannica.com opened its website to external contributors, with registration required to write and edit articles.

December 1999 > Two main French-language encyclopedias on the web

Launched by Editions Atlas in December 1999, Webencyclo was the first main French-language online encyclopedia available for free. It was searchable by keyword, topic, media (maps, links, photos, and illustrations) and ideas. A call for papers invited specialists in a given topic to become external contributors and submit articles in a section called "Webencyclo Contributif". Later on, a free registration was required to use the online encyclopedia. Launched at the same time, the website of Encyclopedia Universalis included 28,000 articles by 4,000 contributors, available for an annual

subscription fee, with a number of articles also available for free.

January 2000 > The Million Book Project, to digitize one million books

Launched in January 2000 by the Carnegie Mellon University (Pennsylvania, United States), the Million Book Project - also called the Universal Library or Universal Digital Library (UDL) - aimed to digitize one million books in a number of languages, including in India and China. The project was completed in 2007, with one million books available on the university website, as image files in DjVu and TIFF formats, and with three mirror sites in northern China, southern China, and India. The project may have inspired the Open Content Alliance (OCA), a universal public digital library launched by the Internet Archive in October 2005.

February 2000 > yourDictionary.com, a portal for linguistic tools in all languages

Robert Beard, a professor at Bucknell University (USA), co-founded yourDictionary.com in February 2000, as a follow-up of his first website, A Web of Online Dictionaries (included in the new one), launched in 1995 as a directory of online dictionaries (with 800 links in fall 1998) and other linguistic resources such as thesauri, vocabularies, glossaries, grammars, and language textbooks. yourDictionary.com included 1,800 dictionaries in 250 languages in September 2003, and 2,500 dictionaries in 300 languages in April 2007. As a tool for all languages without exception, the portal also offered the Endangered Language Repository.

March 2000 > The Oxford English Dictionary online

The online version (for a subscription fee) of the 20-volume Oxford English Dictionary (OED) was launched in March 2000 by the Oxford University Press (OUP). Since then, the website has offered a quarterly update of the online dictionary, with around 1,000 new or revised entries each time. In March 2002, two years after this first experience, the Oxford University Press launched Oxford Reference Online (ORO), a comprehensive encyclopedia designed directly for the web, and also available for a subscription fee. Its 60,000 webpages and one million entries could represent the equivalent of 100 print encyclopedias.

March 2000 > Mobipocket, a company specializing in ebooks for PDAs

Mobipocket was founded in March 2000 in Paris, France, by Thierry Brethes and Nathalie Ting, as a company specializing in ebooks for PDAs, with some funding from Vivendi. The Mobipocket format (PRC, based on the OeB format) and the Mobipocket Reader were "universal" and could be used on any PDA, and then on any computer from April 2002. They quickly became global standards for ebooks on mobile devices. In spring 2003, the Mobipocket Reader was available in several languages (French, English, German, Spanish, Italian) and could also be used on the smartphones of Nokia and Sony Ericsson. 6,000 titles in several languages were available on Mobipocket's website and in partner online bookstores. Bought by Amazon in April 2005, Mobipocket presently operates within the Amazon brand, with a multilingual catalog of 70,000 books in 2008.

April 2000 > The Pocket PC, a PDA launched by Microsoft with the Microsoft Reader

Microsoft launched its own PDA, the Pocket PC, in April 2000, as well as the Microsoft Reader (free), for people to read books in LIT (from "literature") format on the Pocket PC. In August 2000, the Microsoft Reader was also available for computers, and then for any Windows platform, including for the Tablets PC launched in November 2002. Microsoft was billing publishers and distributors for the use of its DRM technology through the Microsoft DAS Server, with a commission on each sale. Microsoft also partnered with major online bookstores - Barnes & Noble.com in January 2000 and Amazon.com in August 2000 - for them to offer ebooks for the Microsoft Reader in their eBookstores soon to be launched. Barnes & Noble.com opened its eBookstore in August 2000, followed by Amazon in November 2000.

June 2000 > A quote by Jean-Paul, an hypermedia writer

Jean-Paul switched from being a print author to being an hypermedia writer, and began searching how hyperlinks could expand his writing towards new directions. He wrote in June 2000: "Surfing the web is like radiating in all directions (I am interested in something and I click on all the links on a home page) or like jumping around (from one click to another, as the links appear). You can do this in the written media, of course. But the difference is striking. So the internet changed how I write. You don't write the same way for a website as you do for a script or a play. (...) Since then I write directly on the screen: I use the print medium only occasionally (...): the text is developing page after page (most of the time), whereas the technique of links allows another relationship to the time and space of imagination. And, for me, it is above all the opportunity to put into practice this reading/writing 'cycle'.

whereas leafing through a book gives only an idea - which is vague because the book is not conceived for that." (NEF Interview)

July 2000 > 50% non-English-speaking internet users

Non-English-speaking internet users reached 50% in summer 2000. (Users living outside the U.S. reached 50% one year earlier, in summer 1999.) According to Global Reach, a consultancy promoting the localization of websites, non-English-speaking users reached 52.5% in summer 2001, 57% in December 2001, 59.8% in April 2002, 64.4% in September 2003 (including 34.9% non-English-speaking Europeans and 29.4% Asians), and 64.2% in March 2004 (including 37.9% non-English-speaking Europeans and 33% Asians). This was a turning point for a multilingual internet, although much still needed to be done to offer more websites in languages other than English, as well as more bilingual and plurilingual websites.

July 2000 > Stephen King, a best-selling author and a digital pioneer

In July 2000 began the electronic (self-)publishing of *The Plant*, an epistolary novel by Stephen King, who was the first author of best-sellers to make such a bet. Stephen King started his digital experiment a little earlier, with the distribution in March 2000 of his short story *Riding the Bullet*, which was downloaded 400,000 times during the first 24 hours. All this was followed with a lot of interest by the media. Then Stephen King created a website to self-publish his novel *The Plant* in episodes. The chapters were published at regular intervals and could be downloaded in several formats (PDF, OeB, HTML, TXT). After the publication of the sixth chapter in December 2000, the author decided to step down and stop this experiment, because more and more readers were downloading the chapters without paying for them. Stephen King went on with digital experiments though, but this time in partnership with his publisher.

August 2000 > Barnes & Noble.com opened its eBookStore

Barnes & Noble.com started its eBookStore in August 2000, following a partnership with Microsoft in January 2000 to sell digital books for the Microsoft Reader. Barnes & Noble.com also partnered with Adobe in August 2000 to sell books for the Acrobat Reader and the Glassbook Reader - Adobe had just bought Glassbook, its reader and its digital bookstore.

September 2000 > GDT, the largest bilingual online French-English dictionary

The OQLF (Office Québécois de la Langue Française - Quebecois Office of the French Language) launched in September 2000 the GDT (Grand Dictionnaire Terminologique — Main Terminological Dictionary), a free online bilingual French-English dictionary with 3 million terms related to industry, science and commerce. This online version was a technological challenge, and the result of a partnership between the OQLF, author of the dictionary, and Semantix, a company specializing in linguistic software. During the first month, the GDT counted 1.3 million individual visits, with peaks of 60,000 daily visits. The database was then maintained by Convera Canada, with 3.5 million hits per month in February 2003. A revamped version of the GDT went online in March 2003. The database is presently maintained by the OQLF itself, with the addition of Latin as a third language.

September 2000 > Numilog, a French-language digital bookstore

Numilog was founded in March 2000 by Denis Zwirn in Paris, France, as a company specializing in the distribution of digital books. In September 2000, Numilog launched an online bookstore that became the main French-language aggregator of digital books. In December 2006, the catalog included 35,000 books and audiobooks from 60 publishers, including Gallimard, POL, Le Dilettante, Le Rocher, La Découverte, De Vive Voix, Eyrolles or Pearson Education France. Numilog is now (since May 2008) a subsidiary of Hachette Livre, a leading publishing group. In January 2009, the catalog was offering 100,000 ebooks from 100 publishers, with tailored services for bookstores and libraries.

October 2000 > Distributed Proofreaders, to share the correction of digitized books

Distributed Proofreaders (DP) was founded in 2000 by Charles Franks to support the digitization of public domain books and assist Project Gutenberg in its efforts to offer free electronic versions of literary works. Distributed Proofreaders presently became the main source of Project Gutenberg's ebooks, and an official Project Gutenberg site in 2002. In May 2006, Distributed Proofreaders became a separate legal entity and continues to maintain a strong relationship with Project Gutenberg. 10,000 books were digitized, proofread, and "preserved for the world" in December 2006, and 18,000 books in June 2010. Distributed Proofreaders Europe (DP Europe) began production in early 2004. Distributed Proofreaders Canada (DP Canada) began production in December 2007.

October 2000 > The Public Library of Science, or science for all

The Public Library of Science (PLoS) was founded in October 2000 in California as a non-profit organization whose mission was to give access to the world's scientific and medical literature, with a search engine and hyperlinks between articles. PLoS posted an open letter requesting the articles traditionally published in expensive journals to be distributed freely in online archives, and asking researchers to promote the publishers willing to support this project. From October 2000 to September 2002, the open letter was signed by 30,000 scientists from 180 countries. The publishers' answer was much less enthusiastic, although a number of publishers agreed for their articles to be freely distributed immediately after publication (or six months after publication for some of them). But even the publishers who initially agreed to support the project of PLoS made so many objections that it was finally abandoned. PLoS became a publisher of free high-quality online scientific and medical journals in January 2003.

October 2000 > The eBookMan, a multimedia personal assistant by Franklin

In October 2000, Franklin launched the eBookMan, a multimedia personal assistant that - among other features (calendar, voice recorder, etc.) - allowed people to read books on the Franklin Reader. Three models (EBM-900, EBM-901 and EBM-911) were available in early 2001, for US\$130, \$180 or \$230 depending on the RAM size (8 or 16 MB) and a backlit or not LCD screen. Much larger than the screen of its competitors, the screen was only in black and white, unlike the Pocket PC or some PDAs from Palm. The eBookMan could also be used to listen to audiobooks and music files in MP3 format. In October 2001, people could read books on the Mobipocket Reader, and the Franklin Reader was also available for the Pocket PC and PDAs from Psion, Palm, and Nokia.

November 2000 > The Gemstar eBook, an ebook reader in two versions

The Gemstar eBook was launched in October 2000 by Gemstar-TV Guide International, a company providing digital products and services for the media. Gemstar first bought Nuvomedia (author of the Rocket eBook, the first ebook reading device) and SoftBook Press (author of the SoftBook Reader, the second ebook reading device) in January 2000, before buying the French 00h00.com, a producer of digital books, in September 2000. Two Gemstar eBooks were available for sale in the U.S. in November 2000, with a later attempt in Germany to test the European market. The REB 1100 (successor of the Rocket eBook) had a black and white screen. The REB 1200 (successor of the SoftBook Reader) had a color screen. Both were produced by RCA (Thomson Multimedia). Later on, cheaper models were launched as GEB 1150 and 2150, produced by Gemstar instead of RCA. But the sales were still far below expectations. The company stopped selling ebook reading devices in June 2003, and ebooks the following month.

November 2000 > The original Bible of Gutenberg digitized, and available online

The digitized version of the original Bible of Gutenberg was available online in November 2000, on the website of the British Library. Gutenberg printed its Bible in 1454 or 1455 in Germany, perhaps printing 180 copies, with 48 copies still available in 2000, and three copies - two full ones and one partial one - at the British Library. The two full copies - a little different from each other — were digitized in March 2000 by Japanese experts from the Keio University (Tokyo) and NTT (Nippon Telegraph and Telephone Communications). The images were then processed to offer a full digital version on the web a few months later, for the world to enjoy.

November 2000 > Frederick Forsyth, a British novelist, made a digital experiment

Following Stephen King's footsteps, Frederick Forsyth, the British master of thrillers, decided to make a digital experiment in partnership with Online Originals, an electronic publisher from London. In November 2000, Online Originals published online *The Veteran*, the story of a violent crime in London, and the first part of *Quintet*, a collection of five short stories (announced in the following order: *The Veteran*, *The Miracle*, *The Citizen*, *The Art of the Matter*, and *Draco*). Available in three electronic formats (PDF, Microsoft Reader and Glassbook Reader), the short story was sold for 3.99 pounds (6.60 euros) on the publisher's website and in several online bookstores in the United Kingdom (Alphabetstreet, BOL.com, WHSmith) and in the U.S. (Barnes & Noble, Contentville, Glassbook).

November 2000 > Arturo Pérez-Reverte, a Spanish novelist, made a digital experiment

Arturo Pérez-Reverte, a Spanish novelist, is famous for his best-seller collection of novels telling the adventurous life of Capitan Alatriste in the 17th century. The new title to be released in late 2000 was "El Oro del Rey" (*The King's Gold*). In November 2000, the author partnered with his publisher Alfaguara to publish "El Oro del Rey" exclusively in digital form for one month, on a specific site of the web portal Inicia, before the release of the print version in bookstores. The novel was available in PDF format for 2.90 euros, a much cheaper price than the 15.10 euros of the forthcoming print book. As a

result of the experiment, the number of downloads was very good, but not the number of payments. A month after the online publishing of the novel, there are 332,000 downloads, but only 12,000 readers who paid for it.

November 2000 > Amazon.com opened its eBookStore

Amazon.com started its eBookStore in November 2000, following a partnership with Microsoft in August 2000 to sell digital books for the Microsoft Reader. The same month, Amazon.com also partnered with Adobe to offer digital books for the Acrobat Reader and the Glassbook Reader - Adobe had just bought Glassbook, its reader and its digital bookstore. In April 2001, Amazon.com partnered again with Adobe to include in its collection 2,000 copyrighted books for the Acrobat eBook Reader, mainly titles from major publishers, travel guides, and children books.

December 2000 > Gyricon Media, to develop an electronic ink technology

In December 2000, researchers at PARC (Palo Alto Research Center), the Xerox center in Silicon Valley, California, founded the company Gyricon Media to market the SmartPaper, an electronic paper based on the display technology called gyricon - developed since 1997 within Xerox. Very briefly explained, the technology was the following one: in between two sheets of flexible plastic, millions of micro-cells contain two-tone (for example black and white) beads suspended in a clear liquid. Each bead has an electric charge. An external electrical pulse makes the balls rotate and change color, to display, modify, or delete data. In 2004, the market was commercial advertising, with small posters running on batteries. The company ended its activities in 2005, with R&D activities going on at Xerox.

2000 > The wiki, a collaborative website

Deriving from the Hawaiian term "wiki" ("fast"), a wiki is a website allowing multiple users to collaborate online on the same project. The wiki concept became quite popular in 2000. At any time, users can contribute to drafting content, edit it, improving it, and updating it. The wiki has been used for example to create and manage dictionaries, encyclopedias, or reference tools. The software can be simple or more elaborate. A simple program handles text and hyperlinks. With a more elaborate program, one can embed images, charts, tables, etc. The most famous wiki is Wikipedia.

January 2001 > Wikipedia, a global free cooperative online encyclopedia

Wikipedia was launched in January 2001 by Jimmy Wales and Larry Sanger (Larry resigned later on). It has quickly grown into the largest reference website on the internet, financed by donations, with no advertising. Its multilingual content is free and written collaboratively by people worldwide, who contribute under a pseudonym. Its website is a wiki, which means that anyone can edit, correct, and improve information throughout the encyclopedia. The articles stay the property of their authors, and can be freely used according to the GFDL (GNU Free Documentation License) and the Creative Commons license. In December 2004, Wikipedia had 1.3 million articles (by 13,000 contributors) in 100 languages. In December 2006, Wikipedia was among the ten top sites on the web, with 6 million articles. In May 2007, Wikipedia had 7 million articles in 192 languages, including 1.8 million articles in English, 589,000 articles in German, 500,000 articles in French, 260,000 articles in Portuguese, and 236,000 articles in Spanish. In 2008, Wikipedia was in the top five websites. In september 2010, Wikipedia had 14 million articles in 272 languages, including 3.4 million articles in English, 1.1 million articles in German and 1 million articles in French.

January 2001 > UNL (Universal Networking Language), a digital metalanguage project

The UNDL Foundation (UNDL: Universal Networking Digital Language) was founded in January 2001 to develop and promote the UNL (Universal Networking Language) project. The UNL project was launched in mid-1990s as a main digital metalanguage project by the Institute of Advanced Studies (IAS) of the United Nations University (UNU) in Tokyo, Japan. As explained on the bilingual (English, Japanese) website in 1998: "UNL is a language that - with its companion 'enconverter' and 'deconverter' software - enables communication among peoples of differing native languages. It will reside, as a plug-in for popular web browsers, on the internet, and will be compatible with standard network servers." In 2000, 120 researchers worldwide were working on a multilingual project in 16 languages (Arabic, Brazilian, Chinese, English, French, German, Hindu, Indonesian, Italian, Japanese, Latvian, Mongolian, Russian, Spanish, Swahili, and Thai).

January 2001 > The Cybook was launched as the first European ebook reader

Developed by Cytale, a French company created by Olivier Pujol, the Cybook (21 x 16 cm, 1 kilo) was available in January 2001 as the first European ebook reading device. Its memory - 32 M of SDRAM and 16 M of flash memory - could store 15.000 pages, or 30 books of 500 pages. But sales were far below expectations, and Cytale ended its activities in July 2002. The Cybook project was taken over by

Bookeen, a company created in 2003 by Michael Dahan and Laurent Picard, two former engineers from Cytale. The Cybook second generation was available in June 2004. Bookeen launched the Cybook Gen3 in July 2007, with a screen using the E Ink technology.

January 2001 > Adobe launched the Acrobat eBook Reader

In January 2001, Adobe launched the Acrobat eBook Reader (for free) and the Adobe Content Server (for a fee). The Acrobat eBook Reader was meant to read PDF files of copyrighted books, while adding notes and bookmarks, getting the book covers in a personal library, and browsing a dictionary. The Adobe Content Server was intended for publishers and distributors for the packaging, protection, distribution, and sale of copyrighted books in PDF format, while managing their access with DRM (Digital Rights Management), according to instructions given by the copyright holder, for example allowing or not the printing and loan of ebooks. In May 2003, the Acrobat eBook Reader (2nd version) merged with the Acrobat Reader (5th version) to become the Adobe Reader (beginning with the 6th version).

February 2001 > A quote by Russon Wooldridge, founder of NEF (Net of French Studies)

Russon Wooldridge is a professor at the Department of French Studies in the University of Toronto, Canada, and the founder of the NEF (Net des Etudes Françaises / Net of French Studies) in May 2000. He wrote in February 2001: "My research, conducted once in an ivory tower, is now almost exclusively done through local or remote collaborations. (...) All my teaching makes the most of internet resources (web and email): the two common places for a course are the classroom and the website of the course, where I put all course materials. I have published all my research data of the last 20 years on the web (re-edition of books, articles, texts of old dictionaries as interactive databases, treaties from the 16th century, etc.). I publish proceedings of symposiums, I publish a journal, I collaborate with French colleagues by publishing online in Toronto what they can't publish online at home." (NEF Interview)

March 2001 > IBM launched the WebSphere Translation Server

In March 2001, IBM embarked on a growing translation market with a high-end professional product, the WebSphere Translation Server. The software could instantly translate webpages, emails, and chats in several languages (Chinese, English, French, German, Italian, Japanese, Korean, Spanish). It could process 500 words per second and add specific terminology to the software.

March 2001 > Palm launched the Palm Reader

In March 2001, Palm bought Peanutpress.com, a publisher and distributor of digital books for PDAs, from the netLibrary company. The Peanut Reader merged with (or became) the Palm Reader, that could be used on Palm Pilots and Pocket PCs, and the 2,000 titles from Peanutpress.com were transferred to the digital bookstore Palm Digital Media. In July 2002, the Palm Reader was also available for computers. Palm Digital Media distributed 5,500 ebooks in several languages in July 2002, and 10,000 ebooks in 2003.

April 2001 > PDAs and ebook readers: a few numbers

In April 2001, there were 17 million PDAs and only 100,000 ebook readers worldwide, according to a Seybold Report. 13,2 million PDAs were sold in 2001. Palm was the leader, despite fierce competition, with 23 million Palm Pilots sold between 1996 and 2002. In 2002, 36.8% of all PDAs were Palm Pilots. The Palm Pilot's main competitor was Microsoft's Pocket PC. The main platforms were Palm OS (for 55% PDAs) and Pocket PC (for 25,7% PDAs). In 2004, prices began to drop. The leaders were the PDAs of Palm, Sony, and Hewlett-Packard, followed by Handspring, Toshiba, and Casio. Smartphones became more and more popular then, and the sales of PDAs began to drop. Sony stopped selling PDAs in February 2005.

October 2001 > The Wayback Machine, launched by the Internet Archive

In October 2001, with 30 billion stored webpages, the Internet Archive launched the Wayback Machine, for users to be able to surf the archive of the web by date. In 2004, there were 300 terabytes of data, with a growth of 12 terabytes per month. There were 65 billion webpages (from 50 million websites) in 2006, 85 billion webpages in 2008, and 150 billion webpages in March 2010. Founded in April 1996 by Brewster Kahle, the Internet Archive is a non-profit organization that has built an "internet library" to offer permanent access to historical collections in digital format for researchers, historians, scholars, and the general public. Since then, an archive of the web has been stored every two months or so.

2001 > Creative Commons, to adapt copyright to the web

Creative Commons (CC) was founded in 2001 by Lawrence "Larry" Lessig, a professor at Stanford Law School, California. As explained on its website in 2009: "Creative Commons is a nonprofit corporation dedicated to making it easier for people to share and build upon the work of others, consistent with the rules of copyright. We provide free licenses and other legal tools to mark creative work with the freedom the creator wants it to carry, so others can share, remix, use commercially, or any combination thereof." There were one million Creative Commons licensed works in 2003, 4.7 million in 2004, 20 million in 2005, 50 million in 2006, 90 million in 2007, 130 million in 2008, and 350 million in April 2010.

2001 > Nokia 9210 was the first smartphone

The first smartphone was Nokia 9210, launched as early as 2001. It was followed by Nokia Series 60, Sony Ericsson P800, and the smartphones of Motorola and Siemens. Smartphones quickly became popular while sales dropped for PDAs. In February 2005, Sony stopped selling PDAs. Smartphones represented 3,7% of all cellphones sold in 2004, and 9% in 2006, with 90 million smartphones sold for one billion cellphones.

January 2003 > The Public Library of Science, a publisher of free high- quality online journals

In early 2003, the Public Library of Science (PloS) — founded in October 2000 - created a non-profit scientific and medical publishing venture to provide scientists and physicians with free high-quality, high-profile online journals in which to publish their work. The journals were PloS Biology (launched in 2003), PLoS Medicine (2004), PLoS Genetics (2005), PLoS Computational Biology (2005), PLoS Pathogens (2005), PLoS Clinical Trials (2006), and PLoS Neglected Tropical Diseases (2007), the first scientific journal on this topic. All PloS articles are freely available online, on the websites of PLoS and of PubMed Central, the public archive run by the National Library of Medicine (United States). The articles can be freely redistributed and reused under a Creative Commons license, including for translations, as long as the author(s) and source are cited.

February 2003 > A quote by Nicolas Pewny, consultant in electronic publishing

A bookseller, publisher — he founded the small publishing house Le Choucas in 1992 -, and consultant in electronic publishing, Nicolas Pewny wrote in February 2003: "I see the future digital book as a 'total work' putting together text, sound, images, video, and interactivity: a new way to design, and write, and read, perhaps on a single book, constantly renewed, which would contain everything we have read, a single and multiple companion. Utopian? Improbable? Maybe not that much!" (NEF Interview)

February 2003 > Handicapzéro, a portal for visually impaired users

In February 2003, the association Handicapzéro launched a general portal for visually impaired French-speaking internet users, offering free access to national and international news, sports news, TV programs, the weather forecast, and access to a full range of services for health, employment, consumer goods, leisure time, sports, and telephony. Handicapzéro — founded in 1987 - has aimed to improve the autonomy of visually impaired people in the French-speaking world, that is to say around 10% of the population. Launched in September 2000, the first website of the association quickly became the most visited "adapted" website in the French-speaking community, with 10,000 queries per month. Since October 2006, a revamped portal (based on the one launched in February 2003) has offered more tools for blind people, for visually impaired people, and for people who want to communicate with them. The portal was used by 2 million people in 2006.

March 2003 > Paulo Coelho, a Brazilian novelist, made a digital experiment

In March 2003, Paulo Coelho, a Brazilian novelist, and the author of *The Alchemist*, decided to distribute several novels for free in PDF format, in various languages, with the consent of his publishers. In early 2003, his books, translated into 56 languages, were sold in 53 million copies in 155 countries.

May 2003 > Adobe Reader was launched to replace Acrobat Reader

In May 2003, Acrobat Reader (5th version) merged with Acrobat eBook Reader (2nd version) to become Adobe Reader (starting with version 6), which could read both standard PDF files and secure PDF files of copyrighted books. In late 2003, Adobe opened its own online bookstore, the Digital Media Store, with titles in PDF format from major publishers (HarperCollins, Random House, Simon & Schuster, etc.), as well as electronic versions of newspapers and magazines like *The New York Times*, *Popular Science*, etc. Adobe also launched Adobe eBooks Central as a service to read, publish, sell, and lend ebooks, and Adobe eBook Library as a prototype digital library.

September 2003 > The MIT OpenCourseWare: course materials of MIT online for free

The MIT OpenCourseWare (MIT OCW) was officially launched in September 2003 by MIT (Massachusetts Institute of Technology) to put its course materials for free on the web, as a way to promote open dissemination of knowledge. In September 2002, a pilot version was available online with 32 course materials. 500 course materials were available in March 2004. In May 2006, 1,400 course materials were offered by 34 departments belonging to the five schools of MIT. In November 2007, all 1,800 course materials were available, and regularly updated. MIT also launched the OpenCourseWare Consortium (OCW Consortium) in November 2005, as a collaboration of educational institutions that were willing to offer free online course materials. One year later, the OCW Consortium included the course materials of 100 universities worldwide.

February 2004 > Facebook, a social network

Facebook is a social network founded in February 2004 by Mark Zuckerberg and his fellow students. Originally created for the students of Harvard University, it was made available to students from any university in the U.S. In September 2006, it was open to anyone in the world, to connect with relatives, friends, and strangers. It was become the second most visited website in the world, after Google, with 500 million users in June 2010, while sparking debates on privacy issues.

April 2004 > The Librié, an ebook reader launched by Sony

Sony launched its first ebook reader, Librié 1000-EP, in Japan in April 2004, in partnership with Philips and E Ink. Librié was the first ebook reader to use the E Ink technology, with a 6-inch screen, a 10 M memory, and a 500-ebook capacity. eBooks were downloaded from a computer through a USB port. The Librié was the ancestor of the Sony Reader, launched in October 2006 in the U.S., with various new models launched worldwide then.

2004 > The web 2.0, based on the notions of community and sharing

The web 2.0 — a concept launched in 2004 - has been based on the notions of community and sharing, with a wealth of websites whose content is supplied by users, such as blogs, wikis, social networks or collaborative encyclopedias. Wikipedia, Facebook and Twitter, of course, but also tens of thousands of others. The term "web 2.0" was invented in 2004 by Tim O'Reilly, founder of O'Reilly Media, and a major publisher of computer books, as the title for conferences he was organizing. The web 2.0 concept may begin to fulfill the dream of Tim Berners-Lee, inventor of the web in 1990, as "the web being so generally used that it became a realistic mirror (or in fact the primary embodiment) of the ways in which we work and play and socialize." (excerpt from his short essay "The World Wide Web: A very short personal history", 1998)

2005 > Smartphones or ebook readers?

Can ebook readers like Sony Reader and Kindle really compete with cellphones and smartphones? Will people prefer reading on mobile handsets like the iPhone 3G (with its Stanza Reader) or the T-Mobile G1 (with Google's platform Android and its reader), or will they prefer using ebook readers to enjoy a larger screen? Or is there a market for both smartphones and ebook readers? These were some fascinating questions in a still emerging market.

April 2005 > The ePub format, a standard for ebooks

In April 2005, the Open eBook Forum became the International Digital Publishing Forum (IDPF), and the OeB format was replaced with the ePub format (ePub standing for "electronic publication") as a global standard for ebooks. More and more digital books are in ePub format, widely used by publishers to distribute their ebooks, because it is designed for reflowable content, meaning that the text display can be optimized for the particular display device used by the reader: computer with a large screen, ebook reader with a medium screen, and smartphone with a small screen. The format is meant to function as a single format that publishers and conversion houses can use in-house, as well as for distribution and sale. The PDF files created with recent versions of Adobe Acrobat are compatible with the ePub format.

May 2005 > Google Print, before Google Books

The beta version of Google Print went live in May 2005, after two earlier steps. In October 2004, Google launched the first part of Google Print as a project aimed at publishers, for internet users to be able to see excerpts from their books and order them online. In December 2004, Google launched the second part of Google Print as a project intended for libraries, to build up a digital library of 15 million books by digitizing the collections of main partner libraries, beginning with the universities of Michigan (7 million books), Harvard, Stanford and Oxford, and the New York Public Library. The planned cost in

2004 was an average of US \$10 per book, and a total budget of \$150 to \$200 million for ten years. In August 2005, Google Print was stopped until further notice because of lawsuits filed by associations of authors and publishers for copyright infringement.

August 2006 > Google Books, the worldwide Google program for books

The program resumed in August 2006 under the new name of Google Books. Google Books has provided the full text of public domain books, and has offered excerpts for copyrighted books. As of December 2008, Google had 24 library partners, including a Swiss one (University Library of Lausanne), a French one (Lyon Municipal Library), a Belgian one (Ghent University Library), a German one (Bavarian State Library), two Spanish ones (National Library of Catalonia and University Complutense of Madrid), and a Japanese one (Keio University Library). The U.S. partner libraries were, by alphabetical order: Columbia University, Committee on Institutional Cooperation (CIC), Cornell University Library, Harvard University, New York Public Library, Oxford University, Princeton University, Stanford University, University of California, University of Michigan, University of Texas at Austin, University of Virginia, and University of Wisconsin-Madison.

August 2006 > The Open Content Alliance, a universal public digital library

The Open Content Alliance (OCA) was launched in August 2006 to build a world public permanent archive of multilingual digitized text and multimedia content. The project started in October 2005 as a group of cultural, technology, non profit, and governmental organizations gathering around the Internet Archive to digitize public domain books around the world. The first 100,000 ebooks were available in December 2006 in the Text Archive of the Internet Archive, with 12,000 new ebooks posted per month. Unlike Google Books, the Open Content Alliance (OCA) has made them searchable through any web search engine, and has not scanned copyrighted books, except when the copyright holder has expressly given permission. The first contributors to OCA were the University of California, the University of Toronto, the European Archive, the National Archives in United Kingdom, O'Reilly Media, and the Prelinger Archives. One million ebooks in December 2008 and two million ebooks in March 2010 were available under OCA principles in the Internet Archive.

August 2006 > A version of the union catalog WorldCat for free on the web

In August 2006, WorldCat, the union catalog run by OCLC (Online Computer Library Center), began migrating to the web through the beta version of its new website worldcat.org. OCLC was created as early as 1971 as a non-profit organization dedicated to furthering access to the world's information while reducing information costs. In 2005, WorldCat had 61 million bibliographic records in 400 languages, provided by 9,000 member libraries in 112 countries. In 2006, 73 million bibliographic records were linking to one billion documents available in these libraries. Through the current WorldCat, member libraries have now provided free access to their catalogs, and free or paid access to their electronic resources: books, audiobooks, abstracts and full-text articles, photos, music CDs, and videos. In April 2010, WorldCat provided records linking to 1,5 billion documents.

2006 > Twitter, or information in 140 characters

Founded in 2006 in California by Jack Dorsey, Evan Williams, and Biz Stone, Twitter is a social networking and micro-blogging tool for users to send free short messages of 140 characters maximum, called tweets, via the internet, IM (Instant Messaging), or SMS (Short Message Service). Sometimes described as the SMS of the internet, Twitter has since gained worldwide popularity, with 106 million users in April 2010, and 300,000 new users per day. As for tweets, there were 5,000 per day in 2007, 300,000 in 2008, 2.5 million in 2009, 50 million in January 2010, and 55 million in April 2010, with the archiving of tweets by the Library of Congress as a reflection of the trends of our time, and their inclusion by Google in the results of its search engine.

October 2006 > The Sony Reader, a new ebook reader

The Sony Reader was launched in October 2006 in the U.S. for US \$350. The Sony Reader was the first ebook reader to use the new advanced E Ink screen technology, "a screen that gives an excellent reading experience very close to that of real paper, making it very easy going on the eyes" (Mike Cook, editor of epubBooks.com). Another major feature of the reader over most other electronic devices is its battery life, with over 7,000 pages turns - or up to two weeks of power - on just one battery charge. It was the first ebook reader to use Adobe's Digital Editions. The Sony Reader is presently available in the U.S., Canada, UK, Germany, and France, with cheaper and revamped models.

December 2006 > Live Search Books, the digital library of Microsoft

The beta version of Live Search Books was released in December 2006, with a search possible by keyword for non-copyrighted books digitized by Microsoft in partner libraries. The British Library and

the libraries of the Universities of California and Toronto were the first ones to join in, followed in January 2007 by the New York Public Library and the Cornell University Library. Books offered full text views and could be downloaded in PDF files. In May 2007, Microsoft announced agreements with several publishers, including Cambridge University Press and McGraw Hill, for their books to be available in Live Search Books. After digitizing 750,000 books and indexing 80 million journal articles, Microsoft ended the Live Search Books program in May 2008. These books are available in the OCA collections of the Internet Archive.

December 2006 > A quote by Marc Autret, a journalist and graphic designer

Marc Autret, a journalist and graphic designer, wrote in December 2006: "I imagine the ebook of the future as a kind of wiki crystallized and packaged in a format. How valuable will it be? Its value will be the value of a book: the unity and quality of editorial work!" (NEF Interview)

December 2006 > A quote by Pierre Schweitzer, inventor of the @folio project

Peter Schweitzer, inventor of the @folio project, a reading device project, wrote in December 2006: "The luck we all have is to live here and now this fantastic change. When I was born in 1963, computers didn't have much memory. Today, my music player could hold billions of pages, a true local library. Tomorrow, by the combined effects of the Moore Law and the ubiquity of networks, we will have instant access to works and knowledge. We won't be much interested any more on which device to store information. We will be interested in handy functions and beautiful objects." (NEF Interview)

March 2007 > Citizendium, a collaborative free online encyclopedia

Citizendium — which stands for "The Citizen's Compendium" - was launched in March 2007 as a pilot project to build a new encyclopedia, at the initiative of Larry Sanger, who co-founded Wikipedia with Jimmy Wales in January 2001, but resigned later on over policy and content quality issues, as well as the use of anonymous pseudonyms. Citizendium is a wiki project open to public collaboration, but combining "public participation with gentle expert guidance". The project is experts-led, not experts-only. Contributors use their own names, and they are guided by expert editors. There are also constables who make sure the rules are respected. There were 1,100 high-quality articles, 820 authors, and 180 editors in March 2007, 11,800 articles in August 2009, and 15,000 articles in September 2010. Citizendium also wants to act as a prototype for upcoming large scale knowledge-building projects that would deliver reliable reference, scholarly and educational content.

May 2007 > The Encyclopedia of Life, to document all species of animals and plants

The Encyclopedia of Life (EOL) was launched in May 2007 as a global scientific effort to document all known species of animals and plants (1.8 million), including endangered species, and expedite the millions of species yet to be discovered and cataloged (about 8 million). The encyclopedia's honorary chair is Edward Wilson, professor emeritus at Harvard University who, in an essay dated 2002, was the first to express the wish for such an encyclopedia. The multimedia encyclopedia has gathered texts, photos, maps, sound, and videos, with a webpage for each species, to provide a single portal for millions of documents scattered online and offline. The first pages were available in mid- 2008. The encyclopedia should be completed with all known species in 2017. The English version will be translated in several languages by partner organizations.

June 2007 > InterActive Terminology for Europe (IATE) in 24 languages

IATE (InterActive Terminology for Europe) was launched in March 2007 as an eagerly awaited free public service on the web, with 1.4 million entries in 24 languages, after being launched in summer 2004 on the intranet of the European institutions. IATE is available in 24 languages, and has replaced Eurodicautom, the former terminology database available in 12 languages. The European Union went from 15 country members to 25 country members in May 2004, and 27 country members in January 2007, after its enlargement to include some Eastern European countries. IATE has been maintained by the Translation Center of the European Union institutions in Luxembourg. IATE was offering 8,4 million words in 2009, including 540,000 abbreviations and 130.000 expressions.

June 2007 > The iPhone, a smartphone launched by Apple

Launched by Apple in January 2007 in the United States, the iPhone is a smartphone including an iPod (the iPod was launched in October 2001), a camera, and a web browser, with the following specifications: large tactile screen (3,5 inches), synchronization with the iTunes platform to download music and videos, camera of 2 megapixels, Safari browser, Mac OS X operating system, access to GSM (Global System for Mobile Telecommunications) and EDGE (Enhanced Data for GSM Evolution), WiFi, and Bluetooth. The first iPhone was available for US\$499 for the 4 G version and \$599 for the 8 G version in the U.S., and launched in Europe in late 2007 and in Asia in 2008. Other models followed,

the latest one being the iPhone 4, launched in June 2010.

August 2007 > A quote by Denis Zwirn, president of the digital bookstore Numilog

Denis Zwirn is the president of Numilog, the main French-language digital bookstore. He wrote in August 2007: "The digital book is not any more a topic for symposiums, conceptual definitions, or divination by some 'experts'. It is a commercial product and a tool for reading. There is no need to wait for some new hypermodern and hypertextual tool carefully orchestrating its specificity from the print book. We need to offer books that can be easily read on any ebook reader used by customers, sooner or later with an electronic ink display. And to offer them as an industry. The digital book is not - and will never be — a niche product (dictionaries, travel guides, books for the blind); it is becoming a mass market product, with multiple forms, like the traditional book." (NEF Interview)

November 2007 > The Kindle, an ebook reader launched by Amazon

In November 2007, Amazon.com launched its own ebook reader, the Kindle, with a catalog of 80,000 ebooks - and new releases for US \$9,99 each. The built-in memory and 2G SD card gave plenty of book storage (1.4 G), with a screen using the E Ink technology, and page-turning buttons. Books were directly bought and downloaded via the device's 3G wireless connection, with no need for a computer, unlike the Sony Reader. 580,000 Kindles were sold in 2008. A thinner and revamped Kindle 2 was launched in February 2009, with a storage capacity of 1,500 ebooks, a new text-to-speech feature, and a catalog of 230,000 ebooks on Amazon.com's website, including the catalog of Mobipocket, a company bought by Amazon in April 2005 and the catalog of Audible.com (audio books and magazines), another company bought by Amazon in January 2009. The Kindle DX was launched in May 2009 with a larger screen, more suitable to read newspapers and magazines.

October 2008 > Google Books versus the associations of authors and publishers

After three years of conflict, Google reached a settlement with the associations of authors and publishers in October 2008, with an agreement to be signed during the next years. The inclusion of copyrighted works in Google Books — launched in April 2005 as Google Print - had been widely criticized by authors and publishers worldwide. In the U.S., lawsuits were filed by the Authors Guild and the Association of American Publishers (AAP) for alleged copyright infringement. The assumption was that the full scanning and digitizing of copyrighted books infringed copyright laws, even if only snippets were made freely available. Google had replied this was "fair use", referring to short excerpts from copyrighted books that could be lawfully quoted in another book or website, as long as the source (author, title, publisher) was mentioned.

November 2008 > Europeana, the European digital library

This European digital library — named Europeana - opened its "virtual" doors in November 2008, with two million documents. As a first step, the European Library was a common portal for 43 national libraries, launched in January 2004 by the CENL (Conference of European National Librarians) and hosted on the website of the National Library in the Netherlands. In March 2006, the European Commission launched the project of a European digital library, after a "call for ideas" during three months, from September to December 2005. Europeana was offering 6 million documents in March 2010, and 10 million documents on a revamped website in September 2010.

November 2009 > The Nook, an ebook reader launched by Barnes & Noble

In November 2009, Barnes & Noble launched the Nook, its own ebook reader, for US \$259, after announcing it in October 2009. Based on the Android platform, the original device included a 6-inch E Ink display, with WiFi and 3G connectivity. In June 2010, the price of the original Nook was reduced to \$199, and a new WiFi-only model was launched for \$159. The Nook Color was announced in October 2010, for the full-color viewing of magazines and picture books. In November 2010, the website of Barnes & Noble offered 2 million ebooks for the Nook.

April 2010 > The iPad, a multifunctional tablet launched by Apple

In April 2010, Apple launched the iPad, its multifunctional tablet, in the U.S. for US\$499, with an iBookstore of 60,000 ebooks, and many more to come from partnerships with publishers. The iPad was available in a few European countries in June 2010. After the iPod (launched in October 2001) and the iPhone (launched in January 2007), two cult devices for a whole generation, Apple has also become a key player for digital books.

April 2010 > A quote by Catherine Domain, bookseller and publisher of travel books

Catherine Domain, founder in 1971 of the Ulysses bookstore, the oldest travel bookstore in the world,

has become a publisher of travel books in April 2010. She wrote in an email: "The internet has taken more and more space in my life! On April 1st, I started being a publisher after some painful training in Photoshop, InDesign, and others. This is also great to see that the political will to keep people in front of their computers - for them not to start a revolution - can be defeated by giant and spontaneous happy hours [in Europe, through Facebook] with thousands of people who want to see - and speak with - each other in person. There will always be unexpected developments to new inventions. When I started using the internet [in 1999, to create the bookstore's website], I really didn't expect to become a publisher."

November 2010 > End of the Booknology

Many thanks to Marc Autret for the term "Booknology" used in a previous common project, and to all those who are quoted in this Booknology.

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